

PDA PRO-RANGE

PDA200/2 • PDA500/2 • PDA1000/2 PROFESSIONAL INDUCTION LOOP AMPLIFIERS

part of the ((soundfields)) range

SigNET's new range of professional current mode audio-frequency induction loop amplifiers offer outstanding sound quality at a competitive price. They are ideal for use in large prestigious applications such as theatres, churches, cathedrals, cinemas, large conference halls, etc., where first class sound and unrivalled reliability are a must.

Each amplifier includes one balanced microphone input and one switchable balanced mic. or line level input, both of which will accept standard 3 pin XLR connectors. Optional 11V phantom power is also available on both inputs to allow the use of electret or condenser microphones.

By popular demand, each amplifier also features a four-way 'Outreach' input offering full compatibility with SigNET's unique Outreach Plate audio input extension system. This system allows the connection of up to 10 additional microphone or line level inputs via a range of specially designed single gang connector plates.

The pre-amplification stage of each amplifier utilises an advanced signal processing system that allows tight control over the audio signal without any degradation of output quality. A metal compensation control is also provided to help offset the frequency response problems associated with the excessive metal content of some rooms.

Other features include three level controls (one for each input), a loop drive control, an output current meter and a 'compression' activity display giving visible indication of the amplifier's compressor.



PDA Pro-Range amplifiers are fully compatible with SigNET's unique 'Outreach Plate' audio input extension system. This system allows the connection of multiple microphone or line level inputs via a range of specially designed single gang connector plates covering the most common variants of audio connector including XLR line, XLR mic., 3.5mm jack, dual phono and 1/4" jack. A maximum of 10 plates (any mix) can be daisy-chained to the amplifier's Outreach socket using standard two pair audio cable such as Belden 8723.



features

- Ideal for theatres, cinemas, churches, conference halls and other applications where top quality sound is a must
- Attractive free-standing design (optional wall and 19" rack-mounting kits available)
- Improved drive current capability provides up to 50% extra coverage over previous PDA Pro-Range models

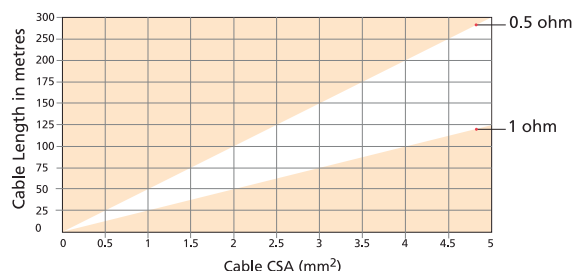
Pro-Range Amplifier	Max. square room coverage	Max. 2:1 aspect ratio coverage
PDA200/2	200m ²	240m ²
PDA500/2	500m ²	600m ²
PDA1000/2	900m ²	1100m ²

- Two XLR 3 pin input sockets - one balanced mic. and one switchable balanced mic./line
- Optional 11V phantom power available for electret or condenser microphones
- 'Outreach' input allows the connection of up to 10 additional mic. or line level inputs via a series of separately available single gang connector plates
- Adjustable level controls provided for all inputs - can be used individually or together as a three-input mixer
- Adjustable drive control allows the loop current to be adjusted to suit a room's individual characteristics
- Metal compensation control helps offset the frequency response problems associated with excessive metal in a building
- True output current meter
- Visible indication of the amplifier's compressor action via two LEDs
- 3.5mm headphone socket allows true monitoring of the output signal
- Advanced audio signal processing with automatic gain control
- On-board cooling fan on PDA500/2 and PDA1000/2 promotes stable operating temperature and increased reliability
- All models designed to meet or exceed the requirements of BS7594 and EN60118-4 when correctly installed

loop cable selection

Almost any single core tri-rated cable can be used for the induction loop provided it is of the appropriate DC resistance (ideally 0.5 to 1 Ohm). The graph below shows the recommended CSA for different lengths of loop cable. Simply work out the length of the loop required and choose a cable size that falls into the non-shaded area of the graph.

For example, to cover a room 30m x 20m (600m²) the loop cable would need to be 100m long (2 sides @ 30m and 2 sides @ 20m). The recommended cable CSA for a loop this length is between 2mm² and 4mm². Therefore, a PDA1000/2 (which can cover areas up to 900m²) using 2.5mm² cable would be sufficient.



specifications

Power	230-240 V a.c. mains (PDA200/2 <150 VA; PDA500/2 <225 VA; PDA1000/2 <300 VA). IEC 320 fused mains lead supplied)
Inputs	Line (3 pin XLR) - impedance: 6k8 + or - input to ground; Sensitivity: 200mV - 2.5V RMS balanced or unbalanced Microphones (3 pin XLR) - impedance: 6k8 + or - input to ground; Sensitivity: 1 - 8mV balanced Phantom power: 12V switchable (on/off) Outreach (Four-way Weidmuller connector BL5. 08/4) - impedance: >10k; Sensitivity: 500mV - 6V RMS balanced Outreach Power: 16 - 21 V d.c. is available via the amplifier's Outreach Socket
Output type	Current mode
Loop connector	Four way binding posts
Recommended loop impedance	0.5 - 1 Ohm @ 1KHz. Will drive higher impedance loops with reduced area of coverage
Loop drive current @ 1 Ohm	PDA200/2 - 6A; PDA500/2 - 9A; PDA1000/2 - 12A
Peak loop drive current (Measured over 5mS integration time)	PDA200/2 - 8 Amps @ 1 Ohm, 13Amps @ 0.5 Ohm PDA500/2 - 12 Amps @ 1 Ohm, 19 Amps @ 0.5 Ohm PDA1000/2 - 14 Amps @ 1 Ohm, 24 Amps @ 0.5 Ohm
Recommended cable gauge	See Loop Cable Selection at top of page
Headphones	3.5mm jack socket allows monitoring of the loop signal via >32 Ohm headphones
Maximum area coverage	For a 400mA/M field strength +/- 1dB PDA200/2 @ 6A max short term current: Square room = 200m ² ; Rectangular room (2:1 aspect ratio) = 240m ² PDA500/2 @ 9A max short term current: Square room = 500m ² ; Rectangular room (2:1 aspect ratio) = 600m ² PDA1000/2 @ 12A max short term current: Square room = 900m ² ; Rectangular room (2:1 aspect ratio) = 1100m ²
Performance	Frequency response: 20Hz - 14 KHz + - 3dB; Distortion: Less than 0.5 %; S to N ratio: Better than -65dB any input
Compressor	Gives dynamically variable compression ratio from 1:1 (no compression) to 17:1 Attack time: Approx. 10mS. Release time: Approx. 2.2S
Metal Compensation	True 3dB /octave design counteracts frequency dependent absorption by metal in the proximity of the installation over a bandwidth of approximately 100Hz - 10KHz
Indicators	Power on LED: Red Loop current: A five LED bar graph type meter is provided to allow monitoring of loop current output and assist in setting up the amplifier. This is provided by monitoring true output current rather than from a line level derived signal. This meter has PPM type characteristics i.e. fast attack and slow release. This allows easy reading of fast peaks. Accuracy - +/-10% Compression: A two LED display is provided for indication of signal compression. The first LED shows the beginning of compression whilst the second indicates very high compression levels have been reached.
Controls	On/Off switch incorporated into IEC mains inlet. Four way piano key style DIP switch selects Phantom power for mic 1 & 2 XLR inputs and switches XLR input 1 between Line and Microphone settings. The fourth of the 4-in-line switch is not connected. Level controls for XLR 1 (Line/Mic switchable), XLR 2 (Mic) and Outreach. These can be used individually or any of them together, in which case they act as a three input mixer. Drive control: Sets the level of amplifier output current supplied by the amplifier. Metal compensation control. When fully anti-clockwise has no effect on the signal. When turned clockwise imparts a rising 3dB/octave characteristic to the frequency response of the amp to counteract the effect of metal in proximity to the loop.
Cooling Requirements	The PDA1000/2 and PDA500/2 have thermostatically controlled cooling fans, which are activated when the amplifier's internal heatsink temperature reaches approx. 56oC. The PDA200/2 model does not require a cooling fan, as it does not generate as much heat as the larger models.
Dimensions	All models: Length - 380mm; Depth - 220mm; Height - 80mm
Weight	PDA200/2 - 3.74Kg, PDA500/2 - 3.46Kg; PDA1000/2 - 4.54Kg



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